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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,837

09/23/2003

Ronald R. Hysom

11004

4992

7590

10/06/2006

James M. Stover
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EXAMINER

JACOB, MARY C

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/668,837

Applicant(s)

HYSOM ET AL.

Examiner

Mary C. Jacob

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/23/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-27 have been presented for examination.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 124, 601, 603, 605.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 123, 315.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

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4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 21-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to "an information data structure residing on a computer accessible medium for modeling information quality, the data structure comprising...". The claim appears to be directed to a "data structure", therefore, fails to fall within a statutory category (process, machine, manufacture, composition of matter). The claim is directed to functional descriptive material that is recorded on a "computer accessible medium", however, the specification does not define what this "computer accessible medium" is. Therefore, it cannot be determined whether or not this "computer assessable medium" is an "appropriate" computer readable medium in that it is a tangible, physical article or object. Further, even if the information data structure is embodied on an appropriate computer readable medium, the claim still fails to produce a concrete, useful or tangible result.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ponniah (Ponniah, Paulraj, "Data Warehousing Fundamentals: A Comprehensive Guide for IT Professionals", Chapters 3, 13, and 15, John Wiley & Sons, Inc., 2001) in view of Hoxmeier (Hoxmeier, John A., "Topology of Database Quality Factors", Software Quality Journal 7, pages 179-193, 1998).

8. Ponniah teaches On-line Analytical Processing (OLAP) in a data warehouse wherein (claims 1, 8, 14, 15, 21) an information map associating particular metrics of a business wherein the metrics are linked to one another on a map, receiving a visual map from the service depicting a current state for a metric variable (Figures 15-5, 15-7); (claim 2) representing the map as a geometrical shape (Figure 15-5); (claims 3, 7, 22-26) the geometric shape is a three-dimensional object (Figure 15-5) wherein each metric is assigned to a particular connecting line and forms a single unique line of the three dimensional object (Figure 15-5, page 354, paragraph 2), assigning a metric to a single unique surface area that is formed on the three-dimensional object by a unique

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set of three connecting lines (Figure 15-7; page 357, paragraphs 2 and 3); (claims 4, 8, 11, 15, 18) providing the method as a remote electronic service via an external network, using a service for accessing an interactive information modeling tool (page 59, "The Warehouse to the Web"; Figure 3-10); (claims 5, 6, 19, 20, 26) presenting the map on a display, wherein a user interface is used to traverse the map, permitting the map to be dynamically traversed from links associated with the map and activated via the interface, updating different electronic views for the map on the display after activation of one of the links, discernable paths within the map for moving from one state in the map to another state, wherein the paths are determined by the tool based on the selections made from weighted alternative paths that are available within the map from the current state in the direction of the desired state (pages 46, "Interactive Visualization"; page 47, "Chart Manipulation", "Drill Down", "Advanced Interaction"); (claims 8, 13, 27) providing metric values to the information modeling tool based on metric values defined in the information modeling tool (page 50, "Browser Tools", paragraph 2) wherein it is understood that the values provided could be null values; (claims 9, 16) accessing the information modeling tool for selecting a metric at a desired state (page 354, paragraphs 3-5); (claims 10, 16, 17) receiving an updated visual map from the service (page 47, "Advanced Visualization"); (claim 12) accessing the service locally via an internal network (page 59, "The Warehouse to the Web", paragraph 1). Ponniah also teaches that data quality in a data warehouse is critical and that improved data quality boosts confidence in decision making, enables better customer service, increases opportunity to add better value to the services, reduces risk from disastrous

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decisions, reduces costs, enhances strategic decision making, improves productivity by streamlining processes and avoids compounding effects of data contamination (page 292, "Why is Data Quality Critical") and that high quality data has the characteristics of accuracy, completeness, redundancy and usefulness among others (page 294-295).

9. Ponniah does not expressly teach the information map modeling information quality by the association and linking of quality metrics, levels of maturity and quality capabilities or depicting the quality current, intermediate or desired state for the data warehouse.

10. Hoxmeier teaches that database quality must be measured in terms of a combination of dimensions including process and behavior quality, data quality and model fidelity and be judged by how closely it represents the world of the data consumer, its ability to respond to both routine and unanticipated requests within the domain it is expected to manage, and maintain this representation over time and presents a topology for accessing these dimensions (page 180, first paragraph; page 191, Conclusion, lines 1-4), wherein quality metrics, levels of maturity, quality capabilities and the states of the system are studied and modeled (Figure 2 and page 182, last paragraph; page 185, first paragraph, lines 1-5, paragraph 2, lines 1-2; page 187, paragraph 2, lines 1-4) and teaches that modeling techniques such as interrelationship diagraphs and data flow diagrams are known to visualize the data in visual format (page 186, paragraph 2, lines 4-10).

11. Ponniah and Hoxmeier are analogous art since they are both directed to the modeling and visualization of data and the design of a database or data warehouse.

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12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the information map showing the interrelationships among data as taught by Ponniah to model the quality of information in a database including the association and linking of quality metrics, levels of maturity and quality capabilities or depicting the quality current, intermediate or desired state for the data warehouse as taught by Hoxmeier since Hoxmeier teaches that database quality must be measured in terms of a combination of dimensions including process and behavior quality, data quality and model fidelity and be judged by how closely it represents the world of the data consumer, its ability to respond to both routine and unanticipated requests within the domain it is expected to manage, and maintain this representation over time and presents a topology for accessing these dimensions (page 180, first paragraph; page 191, Conclusion, lines 1-4).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Nevin, III (US Patent 6,714,936) teaches a method of storing, manipulating, assessing, and displaying data and its relationships, wherein the data are stored as linked nodes, and can be visualized as a displayed sea of node representations.

15. Jou et al (US Patent 6,995,768) teaches an interactive system for visualizing business data organized according to the dimensional model allows to combine data

from more than one data source and present the data in the form of a graphical, multi-metric data visualization

16. Vasudevan (US Patent 6,877,006) teaches an object-oriented system provides a comprehensive and integrated tool to manage, operate, analyze and inspect structures by providing 3-D visualization of the structures, a database interface, connectivity with one or more databases, a data display and analysis capabilities.

17. Mullen et al (US Patent 7,003,560) teaches a data warehouse computing system including a server connected to a client, a data warehouse architecture, metadata management, a population architecture, an end-user access architecture, an operations architecture, and a development architecture.

18. Chen (US Patent 7,007,029) teaches techniques for visualizing customer data contained in databases, data marts and data warehouses, and provides a system for graphically analyzing relationships in data from one or more data sources of an enterprise.

19. Stolte et al (US Patent 7,089,266) teaches a method and system for producing graphics wherein a hierarchical structure of a database is determined and a visual table, comprising a plurality of panes, is constructed by providing a specification that is in a language based on the hierarchical structure of the database.

20. Evans et al (US Patent 4,785,399) teaches cumulative translational sweeps are used to shape geometric objects in a computer model, and they permit display of the resulting changes in shape in the object modeled, and control of processes involving the object modeled.

21. Gadh et al (US Patent 6,629,065) teaches apparata and methods for rapid design of objects/shapes in Computer-Aided Design (CAD) tools and in Virtual Reality (VR) environments are described.

22. Hammersley et al (US Patent Publication 2001/0039487) teaches a distributed multiresolution modeling system has a database management system on a first server, wherein the database management system provides access to a hierarchical tree representation of surfaces of geometric models.

23. Bensoussan et al (US Patent 6,581,068) teaches a method, system and article of manufacture are provided which enhance the ability to aggregate, analyze and report data from a multidimensional database in a memory.

24. Malloy (US Patent 6,205,447) teaches a method, apparatus, and article of manufacture for using a relational database management system to support on-line analytical processing (OLAP) systems.

25. Pouschine et al (US Patent 5,918,232) teaches a system and method for computer modeling and for creating hyperstructures, which obtains measurements of physical objects and activities which are related to the entity to be modeled in the computer hyperstructure.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary C. Jacob whose telephone number is 571-272-6249. The examiner can normally be reached on M-F 7AM-5PM.

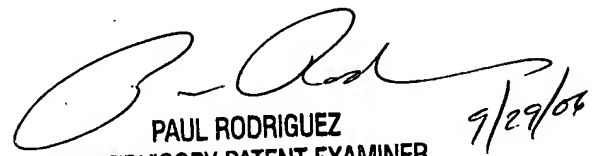
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mary C. Jacob
Examiner
AU2123

MCJ
9/28/06


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9/29/06